11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26		Case No. C03-4669 MJJ (EMC) Case No. C03-2289 MJJ (EMC) REPLY MEMORANDUM IN SUPPORT OF SYNOPSYS' AND THE CUSTOMER DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT (HARDWARE CELLS) [SUMMARY JUDGMENT MOTION NO. 2] Date: September 26, 2006 Time: 9:30 a.m. Courtroom: 11, 19th Floor Judge: Hon. Martin J. Jenkins			
26					
	Defendant.				
27	FILED UNDER SEAL PURSU.	ANT TO PROTECTIVE ORDER			
27 28	FILED UNDER SEAL PURSUANT TO PROTECTIVE ORDER REDACTED PUBLIC VERSION				
25	vs. RICOH COMPANY, LTD., Defendant. FILED UNDER SEAL PURSU.	ANT TO PROTECTIVE ORDER UBLIC VERSION			

HOWREY

1			TABLE OF CONTENTS	
2			Page	
3	I.	INTRODUCTION		
4	II. ARGUMENT			
5		A.	Hardware Cells Must Correspond To Functions To Be Carried Out By The Definitions	
6		B.	The Target Technology Libraries Do Not Contain Hardware Cells	
7		C.	8	
8		D.	Ricoh's Argument That The "Cell Selection Rules" Do Not Need To Be Applied Is Contrary To the Plain Language Of The Claims	
9	III.	CONC	ELUSION	
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20 21				
22				
23				
24	ı			
25				
26				
27				
28				
	Case Nos.	C03-466	9 MJJ (EMC) and C03-2289 MJJ (EMC) -i-	

1	TADI E OF AUTHODITIES
1	TABLE OF AUTHORITIES Page(s)
2	CASES
3	Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336 (Fed. Cir. 2002)10
5	Arthur A. Collins, Inc. v. Northern Telecom Ltd., 216 F.3d 1042 (Fed. Cir. 2000)7
6	Bhan v. NME Hospitals, Inc., 929 F.2d 1404 (9th Cir. 1991)6
7 8	Elekta Instrument S.A. v. O.U.R. Sci. Int'l, Inc., 214 F.3d 1302 (Fed. Cir. 2000)
9	Helfand v. Gerson, 105 F.3d 530 (9th Cir. 1997)3
1011	Jespersen v. Harrah's Operating Co., 392 F.3d 1076 (9th Cir. 2004)6
12	LizardTech, Inc. v. Earth Res. Mapping, Inc., 424 F.3d 1336 (Fed. Cir. 2005)10
13 14	On-Line Technologies, Inc. v. Bodenseewerk Perkin-Elmer GMBH, 386 F.3d 1133 (Fed. Cir. 2004)7
15 16	Renishaw PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243 (Fed. Cir. 1998)3, 4, 9
17	Rhine v. Casio, Inc., 183 F.3d 1342 (Fed. Cir. 1999)10
	Rissetto v. Plumbers and Steamfitters Local 343, 94 F.3d 597 (9th Cir.1996)3
19 20	Southwall Technologies v. Cardinal IG Co., 54 F.3d 1570 (Fed. Cir. 1995)9
21	Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193 (Fed. Cir. 2002)9
22 23	United States v. Various Slot Machines on Guam, 658 F.2d 697 (9th Cir. 1981)7
24	<u>STATUTES</u>
25	35 U.S.C. § 112 ¶ 1
26	
27	
28	
LLP	Case Nos. C03-4669 MJJ (EMC) and C03-2289 MJJ (EMC) REPLY ISO SUMMARY JUDGMENT OF NON-INFRINGEMENT (MOTION NO.2)

I. INTRODUCTION

1

2

3

4

5

6

7

8

9

10

11

12

13

Ricoh's opposition to Defendants' Summary Judgment Motion No. 2 entirely misses the mark, and as is typical builds up and tears down straw man arguments that are not relevant to the resolution of this Motion, and in fact not even raised in the moving papers. For example, Ricoh repeatedly asserts that an alleged one-to-one correspondence of hardware cells to macros is a significant issue. and in fact, devotes several pages discussing this issue. This issue, however, was not raised in the moving papers.² Likewise, there is no dispute that the Target Technology libraries contain primitives that are more complex than one gate. For example, as Ricoh points out, Dr. Casavant describes a one bit adder, as found in some Target Technologies libraries, which is a building block for an adder implementation. However, Ricoh and Dr. Soderman do not dispute that a one bit adder is not a cell that is selected for purposes of the accused designs as corresponding to a specified definition. Indeed, the patent claims and describes as an inventive feature that "rather than generating every required hardware cell from scratch, the system draws upon a library of previously designed, tested and proven hardware cells of various types and of various functional capabilities with a given type." Ex. 1 at 5:16-20. It is undisputed that the accused system does not use such "hardware cells" but rather, for each selected implementation, builds up from the primitives in the technology library, "a hardware cell" as described in the patent. Thus, there are no stored hardware cells.

18

19

20

21

17

16

Ricoh has not raised a

single disputed issue of material fact with regard to any of these issues either. Summary judgment of noninfringement should be granted.

22

23

24

25

26 1 As used herein, "Defendants" refers collectively to Synopsys and the Customer Defendants.

² Even if Ricoh is right, however, that more than one hardware cell can be selected, that does not change the outcome of this Motion. In fact, for purposes of this reply, Defendants will assume Ricoh is correct on this issue. As discussed below, summary judgment of noninfringement is still appropriate even if more than one hardware cell can be selected.

28

27

II. ARGUMENT

A. Hardware Cells Must Correspond To Functions To Be Carried Out By The Definitions

The irony here is that Ricoh previously asserted the same reading of element B – although in slightly different words – that Defendants assert here. Specifically, during the claim construction proceedings, Ricoh argued that element B should be construed as "[p]lacing in computer memory a library of cell information that describes hardware cells capable of performing the different architecture independent actions and conditions placed in the library of definitions," where the term 'hardware cells' should be defined as 'previously designed circuit components or structure that have specific physical and functional characteristics used as building blocks for implementing an ASIC to be manufactured." Ex. 5 at 25:5-11 (emphasis added). In other words, Ricoh agreed that the "hardware cells" stored in element B must be capable of performing the desired actions and conditions. Moreover, Ricoh clearly described the cells as "previously designed circuit components" that are used as "building blocks" for implementing an ASIC.³

Notwithstanding this, Ricoh now vehemently argues that Defendant's proposed definition, consistent with Ricoh's previous assertion, is wrong. In the assertion during the claim construction proceeding, Ricoh relied on the specification of the patent. Now, Ricoh relies almost exclusively on extrinsic evidence for its skewed "infringement" claim construction argument.

As intrinsic evidence, Ricoh relies on the allegation (which Defendants do not necessarily agree with, but will not dispute for purposes of this motion) that the macros described in the '432 patent include a "NEGATE(A)" macro which would typically be implemented by a primitive cell.⁴ Provided,

³ An alternative and acceptable formulation of Defendants construction consistent with this language could be that "hardware cells" are "previously designed circuit components, such as adders, counters, registers, and comparators, that correspond to definitions of actions or conditions.

⁴ Notably, Dr. Soderman's opinion regarding the NEGATE macro is inconsistent with Ricoh's infringement theory. Dr. Soderman asserts that one would never use "anything more than a primitive cell (e.g., 'inverter' gate cell, one-input NAND gate cell, NOR gate cell, etc.) to perform the NOT logic function that corresponds to the NEGATE macro." Soderman Decl. ¶ 27. If that is the case, then the NEGATE macro represents an architecture-dependent action, since it is always associated with a particular structure. Such a macro, however, would be excluded from the scope of the '432 claims, which cover only input descriptions of architecture independent actions and conditions. Thus, Dr. Soderman's opinion regarding (Continued...)

1

3

4 5

6 7

8 9

10

11 12

13

14 15

16

17

18 19

20

21 22

> 23 24

25

26

27 28 however, that the library of hardware cells contained a primitive cell that corresponded to a "NEGATE(A)" macro, and therefore met this claim limitation, this is not inconsistent with Defendants' position.

Ricoh relies on no other intrinsic evidence in support of its assertion that Defendants' interpretation is somehow wrong. Instead, Ricoh relies exclusively on the extrinsic evidence, including amazingly, the accused Target Technology libraries. Ricoh states that Dr. Soderman is of the opinion that hardware cells have a definite meaning to one of ordinary skill in that. The Court should disregard Dr. Soderman's opinions regarding how one of ordinary skill in the art would interpret "hardware cells." See Soderman Decl. ¶¶ 16-18, 25-30. During claim construction, Ricoh argued vociferously that the Court should not consider expert testimony in interpreting the '432 claims. Ex. 5 at 2:5-17, 8:12-20. Having taken this position during claim construction, Ricoh cannot now argue that the Court should consider the testimony of its expert regarding the proper interpretation of the term "hardware cells." See Helfand v. Gerson, 105 F.3d 530, 534 (9th Cir. 1997) ("Judicial estoppel, sometimes also known as the doctrine of preclusion of inconsistent positions, precludes a party from gaining an advantage by taking one position, and then seeking a second advantage by taking an incompatible position.") (quoting Rissetto v. Plumbers and Steamfitters Local 343, 94 F.3d 597, 600 (9th Cir.1996).

Ricoh's analysis of this claim term begins and ends here. Indeed, ironically, Ricoh claims "Defendants have failed to cite a single example in the art to corroborate their restrictive interpretation of the term hardware cell." Opp. at 7. Ricoh is right – Defendants rely on intrinsic evidence – and all the intrinsic evidence supports Defendants' interpretation (as Ricoh acknowledged at the claim construction hearing and conveniently ignores here).

Ricoh incorrectly argues that Defendants' interpretation of "hardware cells" improperly reads a limitation from a preferred embodiment in the '432 patent into the '432 claims. First, Ricoh

(...Continued)

the NEGATE macro results in the exclusion of a preferred embodiment from the scope of the '432 claims, which Ricoh repeatedly argues is improper. See Opp. at 24.

12

17

18 19

20 21

22 23

24

26

27

25

28

mischaracterizes the law on claim construction. The Federal Circuit has stated that "(a) one may not read a limitation into a claim from the written description, but (b) one may look to the written description to define a term already in a claim limitation, for a claim must be read in view of the specification of which it is a part." Renishaw PLC v. Marposs Societa' Per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998). Since "hardware cells" is a term that is present in claim 13, one must look to the written description in the '432 specification to determine the meaning of this term. "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. . . . The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Id. at 1250 (citations omitted).

In addition to all of the intrinsic evidence discussed in the Defendants' opening brief, including the various levels of descriptions of the hardware cells, the remainder of the specification is also consistent with Defendants' interpretation. "Hardware cells" is consistently described in the specification as the functional components that correspond to the specified functions of the ASIC. For example, the '432 specification consistently refers to "hardware cells" as "previously designed" components representing the structures that will perform the action or condition described by the user:

- "The structural level definition includes a list of the integrated circuit hardware cells needed to achieve the functional specifications. These cells are selected from a cell library of previously designed hardware cells of various functions and technical specifications." Ex. 1 at 2:34-39 (emphasis added).
- "PSCS also includes a cell selector 32 for selecting the cells required for system design. The cell selector 32 selects from a cell library 34 of previously designed hardware cells the appropriate cell or cells required to perform each action and condition represented in the flowchart." Ex. 1 at 4:66-5:3 (emphasis added).

Thus, the hardware cells must be complete structures such as adders capable of performing the desired actions and conditions to be performed by the ASIC.

Consistent with this interpretation, the '432 specification states that one advantage of the '432 invention is that it does not require hardware cells to be built from scratch:

1

4 5

6 7

9 10

8

11 12

14 15

13

16 17

18

19 20

21 22

23

24

25

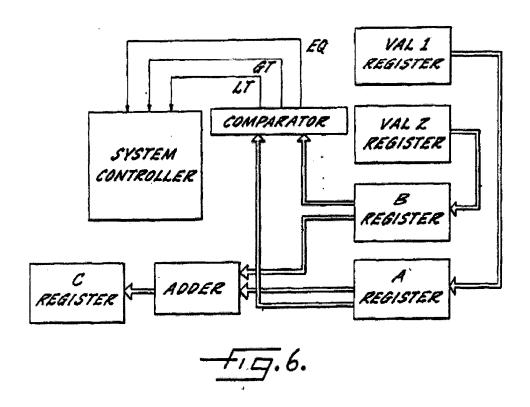
26

27 28

Rather than generating every required hardware cell from scratch, the system draws upon a cell library 34 of previously designed, tested and proven hardware cells of various types and of various functional capabilities with a given type.

Ex. 1 at 5:16-20. This can be contrasted with the Design Compiler system, which does not use predesigned hardware cells, but instead must build up each hardware cell from scratch using the simple logic gates contained in the Target Technology libraries. Casavant Decl. ¶ 25.

Moreover, this is consistent with the figures of the patent. For example, Figure 4 clearly captures the concept. It shows large functional blocks in the cell library as corresponding to the definitions. In addition, the '432 specification states that "FIG. 6 illustrates the results of mapping the flowchart of FIG. 5 onto hardware cells." Ex. 1 at 6:28-29. FIG. 6 from the '432 patent is reproduced below:



Ex. 1 at Sheet 4. FIG. 6 clearly shows block diagrams of several registers, an adder, a comparator, and a system controller. FIG. 6 therefore provides further evidence that the term "hardware cells" in the '432 patent means complete circuit structures such as adders capable of performing the described actions and conditions.

Moreover, the fact that more than one cell may be selected as corresponding to a definition does not change this. Indeed, consider the following excerpt from the example described in the '432 patent:

FIG. 11 illustrates for each of the macros used in the flowchart of FIG. 10, the corresponding hardware blocks. It will be seen that the comparison macro CMP (A,B) results in the generation of a register for storing value A, a register for storing value B, and a comparator block and also produces control paths to the system controller for the EQ, LT, and GT signals generated as a result of the comparison operation. The addition macro ADD (A,B,C) results in the generation of a register for each of the input values A and B, a register for the output value C, and in the generation of an adder block. The macros DECR (A) results in the generation of a counter block. The PSCS program 30 maps each of the macros used in the flowchart of FIG. 10 to the corresponding hardware components results in the generation of the hardware blocks shown in FIG. 12. In generating the illustrated blocks, the PSCS program 30 relied upon rules 1 and 2 of the above listed example rules.

Ex. 1 at 13:36-54.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

In this example, there is a "hardware cell" that corresponds to each of the functions described by the macros. For the CMP macro, a comparator block is selected; for the ADD macro, an ADD block is selected; etc. That other hardware cells, also previously designed hardware components, also result from a macro does not change the fact that a hardware cell corresponding to a function is selected.

The '432 specification is entirely consistent with Defendants' understanding that that the term "hardware cells" in the '432 claims means pre-designed structural components corresponding to the specified functions for the ASIC.

В. The Target Technology Libraries Do Not Contain Hardware Cells

Thus, the question for infringement is: do the objects stored in the Target Technology libraries correspond to and have the capability to perform the specified functions (actions and conditions) for the ASIC? For example, where the specified function is "add," does the Target Technology library contain an object that corresponds to and is capable of performing that "add" function?

Defendants' expert, Dr. Casavant, says the answer to these questions is no because the simple logic gates that are present in the Target Technology libraries do not correspond to and are not capable

26

27

28

4

5

6 7

8 9

10 11

12

13

14

16 17

18 19

20 21

22

23 24

25

26 27

28

of performing functions such as "add." Casavant Decl. ¶ 24-29.5 Instead, these simple logic gates constitute the building blocks from which one can create a structure capable of performing functions such as "add." Id.

Ricoh's response is that Dr. Casavant is wrong because the Target Technology libraries contain "macrocells" in addition to simple logic gates. Opp. at 4-6. But even if Ricoh is correct on this point, this simply begs the question: do these alleged "macrocells" in the Target Technology libraries correspond to and have the capability to perform the specified functions in the ASIC? Neither Ricoh nor its expert ever addresses this question. Instead, they simply assume in a conclusory fashion that storing "macrocells" meets the requirements of element B. A party cannot rely on conclusory opinions from its expert witness to avoid summary judgment, however. On-Line Technologies, Inc. v. Bodenseewerk Perkin-Elmer GMBH, 386 F.3d 1133, 1144 (Fed. Cir. 2004); Arthur A. Collins, Inc. v. Northern Telecom Ltd., 216 F.3d 1042, 1046 (Fed. Cir. 2000); United States v. Various Slot Machines on Guam, 658 F.2d 697, 700 (9th Cir. 1981).

Moreover, another reason the "hardware cells" in the Target Technology Library do not meet the hardware cells limitation is that they do not contain the information described in the specification. Although the Court need not resolve the issue of whether or not "geometrical data" is present in the Target Technology libraries in order to find summary judgment of non-infringement, Ricoh is wrong in assertions about geometric data and its position is inconsistent for validity and infringement. Indeed, Dr. Soderman declares that one of ordinary skill in the art would understand geometric data to include attributes such as width, height, technology, etc. Again here, Dr. Soderman's opinion on this

⁵ Ricoh incorrectly argues that Dr. Casavant's opinions are so conclusory that they fail to meet Defendants' initial burden on summary judgment. As explained in his declaration, Dr. Casavant's opinion that the Target Technology libraries do not contain "hardware cells" is based on his analysis of two exemplary technology libraries, one of which is used in one of Defendants' accused designs (amia250xxsc2_max.lib). Casavant Decl. ¶¶ 24-29. Dr. Casavant's opinion, the factual basis of which is clearly explained in his declaration, is sufficient to meet Defendants' initial burden on summary judgment. See Jespersen v. Harrah's Operating Co., 392 F.3d 1076, 1079 (9th Cir. 2004) ("Where the moving party is not the party bearing the burden of proof at trial, it can meet its initial burden simply by identifying those portions of the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, which it believes demonstrate the absence of a genuine issue of material fact."); Bhan v. NME Hospitals, Inc., 929 F.2d 1404, 1409 (9th Cir. 1991) (party seeking summary judgment "does not necessarily need to put on evidence to negate his opponent's claim").

is not relevant and the patent makes clear that geometric data is "mask data." There is no dispute that the "hardware cells" in the Target Technology Library do not have this data.6 ⁶ Dr. Soderman's assertions regarding the logic and functional descriptions is likewise wholly without merit. Dr. Soderman asserts that the logic information in the technology libraries are the input and output ports, but does not offer any explanation to support this clearly misguided assertion. -8-Case Nos. C03-4669 MJJ (EMC) and C03-2289 MJJ (EMC)

HOWREY LLP

3

4 5

6

7 8

9

10

11 12

13 14

15 16

17

18 19

20 21

22 23

24

25 26

28

27

D. Ricoh's Argument That The "Cell Selection Rules" Do Not Need To Be Applied Is Contrary To the Plain Language Of The Claims

Finally, Ricoh's argument that the "cell selection rules" need not be applied directly to the specified definitions of actions and conditions is meritless. That the cell selection rules must be applied to the specified definitions is the plain language of element F, which recites selecting hardware cells by "applying to the specified definition of the action or condition to be performed, a set of cell selection rules." Ex. 1 at 16:57-59 (emphasis added). The Court construed this language to mean "mapping of the specified definitions to the stored hardware cell descriptions by applying to the specified definitions a set of cell selection rules." Ex. 8 at 20:16-21-4 (emphasis added).⁷ Thus, both the language of the claim and the language of the Court's construction are clear: the cell selection rules must be applied to the specified definitions of actions and conditions.

Ricoh, however, contends that "applying to the specified definitions" means something other than "applying directly to the specified definitions." Specifically, Ricoh argues that it means "the rules are applied to a circuit manifestation of the macros [i.e., the specified definitions of actions and conditions]." Opp. at 8:3-15. Thus, Ricoh would have the Court interpret "applying to the specified definitions" to mean "applying to circuit manifestations of the specified definitions," which in truth means that the definitions are no longer around when the rules are applied. This requires not only rewriting the plain language of the claim, but also completely ignores the Court's claim construction.

The Court should not rewrite the language of claim 13 in such a fashion. The words of the claim are clear on their face and require no further interpretation. See Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998) ("the claims define the scope of the right to

⁷ Notably, Ricoh conveniently omits this portion of the claim construction throughout its opposition brief whenever it discusses the selecting step. See Opp. at 2: 23-24.

exclude; the claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim"); Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed. Cir. 2002) ("The terms used in the claims bear a 'heavy presumption' that they mean what they say . . . "); see also Southwall Technologies v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed. Cir. 1995) ("A patentee may not proffer an interpretation for the purposes of litigation that would alter the indisputable public record consisting of the claims, the specification and the prosecution history, and treat the claims as a 'nose of wax.") (citation omitted).

8

1

2

3

4

5

6

7

9 10

11

12 13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

Dissatisfied with the plain language of claim 13, Ricoh argues that Defendants' reading of the claim is incorrect because it would exclude the preferred embodiment in the patent. Opp. at 23-24. In effect, Ricoh argues that if the Court reads claim 13 in accordance with its plain language, Ricoh has an inadequate written description problem. See, e.g., LizardTech, Inc. v. Earth Res. Mapping, Inc., 424 F.3d 1336, 1346 (Fed. Cir. 2005) (patent claim invalid because description of one method for compressing digital images did not entitle patentee to claim any and all means for achieving that objective); 35 U.S.C. § 112 ¶ 1. The fact that the '432 patentee may have drafted the claims in such a way as to render the claims invalid, however, is not what controls in claim construction. Although it is true that claims are generally construed so as to sustain their validity if possible, the court may not construe a claim differently from its plain meaning to preserve its validity. See Elekta Instrument S.A. v. O.U.R. Sci. Int'l, Inc., 214 F.3d 1302, 1309 (Fed. Cir. 2000) ("having concluded that the amended claim is susceptible of only one reasonable construction, we cannot construe the claim differently from its plain meaning in order to preserve its validity"); Rhine v. Casio, Inc., 183 F.3d 1342, 1345 (Fed. Cir. 1999) ("We, too, have consistently employed the caveat, 'if possible,' to our instruction that

28

claims should be construed to sustain their validity. . . . We have also admonished against judicial

1 rewriting of claims to preserve validity."); Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 2 1349 (Fed. Cir. 2002) ("It is not our function to rewrite claims to preserve their validity.").8 3 III. CONCLUSION 4 For the foregoing reasons, summary judgment of noninfringement should be granted. 5 Dated: September 8, 2006 Respectfully submitted, 6 HOWREY LLP 7 8 By: /s/Denise M. De Mory Denise M. De Morv 9 Attorney for Defendants AEROFLEX INCORPORATED, AMI 10 SEMICONDUCTOR, INC., MATROX ELECTRONIC SYSTEMS, LTD., 11 MATROX GRAPHICS INC., MATROX INTERNATIONAL CORP., MATROX 12 TECH, INC., and AEROFLEX COLORADO SPRINGS, INC. 13 14 15 16 17 18 19 20 21 22 ⁸ Defendants reserve the right to assert that the patent is invalid for lack of adequate written description, but assert that it is not even clear that Ricoh is correctly reading the specification. It is possible that Defendants' reading of element F does not actually exclude the preferred embodiment in the patent. Ricoh attempts to read in as a requirement of element F all of the 23 detailed steps recited in columns 9 and 10 of the specification, but Ricoh ignores that this portion of the specification 24 discusses performing the following actions to the blocklist: "map arguments to data paths / map actions to macros / connect these blocks." Ex. 1 at 9:13-19. This suggests strongly that the blocks in the blocklist are both macros and datapaths, or at 25 least have macros and datapaths associated with them. Under Ricoh's reading of the specification, however, this would mean that the cell selection rules are applied directly to macros to the extent that macros are present in the blocklist. 26 Moreover, cell selection as described in the specification apparently can be made using macro names. Ex. 1 at 9:52-55. Thus, even if there are other steps disclosed in the preferred embodiment, it is not clear that the preferred embodiment is 27 inconsistent with Defendants' reading of element F. The Court need not resolve this issue now, however, as it is not controlling with respect to the present motion, as discussed above.

28

HOWREY LLP